

## CLAIMS

I claim:

1           1. A computerized method for determining the optimum strategy  
2 for controlling pollutant emissions from an electric power  
3 generating plant, the method comprising the steps of:

4           providing a historical data base for the electric power  
5 generating plant;

6           providing real time data;

7           predicting projected power generation requirements for a user  
8 specified future time period by using the historical data base and  
9 the real time data;

10          calculating a baseline projected emission rate for each  
11 pollutant over the user specified future time period using the  
12 projected power generation requirements;

13          displaying the baseline projected emission rate for each  
14 pollutant over the user specified future time period to a user;

15          displaying a pollutant emission limit for each pollutant over  
16 the user specified future time period;

17          displaying a list of pollution control options to the user;

18          calculating a projected emission rate for each pollutant over  
19 the user specified future time period for a user selected pollution  
20 control option; and

21          displaying the projected emission rate over the user specified  
future time period for the user selected pollution control option.

1           2. The computerized method of claim 1, wherein said step of  
2 providing a historical data base includes providing information as  
3 to hourly power generated, hourly amounts for each pollutant  
4 emitted, operating parameters of the electric power generating  
5 plant for each data point in the historical data base, and the type  
6 of fuel used for each data point in the historical data base for a  
7 first one year period.

1           3. The computerized method of claim 1, wherein said step of  
2 providing real time data includes providing data on current power  
3 output, current emission rate for each pollutant emitted, current  
4 operating parameters of the electric power generating plant, and  
5 current type of fuel being used.

1           4. The computerized method of claim 1, wherein said steps of  
2 displaying the baseline projected emission rate, displaying a  
3 pollutant emission limit, and displaying the projected emission  
4 rate include displaying on a graph for each pollutant.

1           5. The computerized method of claim 1, wherein said steps of  
2 predicting projected power generation requirements, calculating a  
3 baseline projected emission rate, displaying the baseline projected  
4 emission rate, displaying a pollutant emission limit, displaying a  
5 list of pollution control options, calculating a projected emission  
6 rate, and displaying the projected emission rate are performed by  
a computer having a display screen.

1           6. A method for determining the optimum strategy for  
2 controlling pollutant emissions from an electric power generating  
3 plant, the method comprising the steps of:

4           providing a historical data base for the electric power  
5 generating plant including hourly power generated, hourly amounts  
6 for each pollutant emitted, operating parameters of the electric  
7 power generating plant for each data point in the historical data  
8 base, and type of fuel used for each data point in the historical  
9 data base for a first one year period;

10          providing real time data including current power output,  
11 current emission rate for each pollutant emitted, current operating  
12 parameters of the electric power generating plant, and current type  
13 of fuel being used;

14          predicting projected power generation requirements for a user  
15 specified future time period by using the historical data base and  
16 the real time data;

17          calculating a baseline projected emission rate for each  
18 pollutant over the user specified future time period using the  
19 projected power generation requirements;

20          displaying the baseline projected emission rate for each  
21 pollutant over the user specified future time period to a user, the  
22 baseline projected emission rate being displayed in a graph for  
23 each pollutant;

24          displaying a pollutant emission limit for each pollutant over  
25 the user specified future time period on the graph for each  
pollutant;

27           displaying a list of pollution control options to the user;  
28           calculating a projected emission rate for each pollutant over  
29           the user specified future time period for a user selected pollution  
30           control option; and

31           displaying the projected emission rate for each pollutant over  
32           the user specified future time period for the user selected  
33           pollution control option on the graph for each pollutant, said  
34           steps of predicting projected power generation requirements,  
35           calculating a baseline projected emission rate, displaying the  
36           baseline projected emission rate, displaying a pollutant emission  
37           limit, displaying a list of pollution control options, calculating  
38           a projected emission rate, and displaying the projected emission  
39           rate being performed by a computer having a display screen.

1           7. A system for determining the optimum strategy for  
2 controlling pollutant emissions from an electric power generating  
3 plant, the system comprising:

4           at least one continuous emission monitoring device positioned  
5 proximate a site of pollutant emission within the electric power  
6 generating plant;

7           means for measuring power output from the electric power  
8 generating plant;

9           a computer system having memory means, processor means,  
10 display means, input means, first communication means communicating  
11 with said continuous emission monitoring device, and a second  
12 communication means communicating with said means for measuring  
13 power output;

14           a historical data base for the electric power generating plant  
15 including hourly power generated, hourly amounts for each pollutant  
16 emitted, operating parameters of the electric power generating  
17 plant for each data point in said historical data base, and type of  
18 fuel used for each data point in said historical data base being  
19 stored in said memory means for a first one year period;

20           real time data including current power output, current  
21 emission rate for each pollutant emitted, current operating  
22 parameters of the electric power generating plant, and current type  
23 of fuel being used, being received from said continuous emission  
24 monitoring device and said means for measuring power output and  
25 being stored in said memory means on a continuing basis;

26           said memory means also storing a control program which  
27    operates said processor means;

28           said processor means operating to predict projected power  
29    generation requirements for a user specified future time period by  
30    using said historical data base and said real time data;

31           said processor means operating to calculate a baseline  
32    projected emission rate for each pollutant over the user specified  
33    future time period using said projected power generation  
34    requirements;

35           said processor means operating said display means to display  
36    said baseline projected emission rate for each pollutant over the  
37    user specified future time period to a user, said baseline  
38    projected emission rate being displayed in a graph for each  
39    pollutant;

40           said processor means operating said display means to display  
41    a pollutant emission limit for each pollutant over the user  
42    specified future time period on said graph for each pollutant;

43           said processor means operating said display means to display  
44    a list of pollution control options to the user;

45           said processor means operating to calculate a projected  
46    emission rate for each pollutant over the user specified future  
47    time period for a user selected pollution control option; and

48           said processor means operating said display means to display  
49    said projected emission rate for each pollutant over the user  
50    specified future time period for the user selected pollution  
      control option on said graph for each pollutant.

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